

REMARKS

In the Office Action mailed October 5, 2005, claims 1, 2, 5, 10, 12, 13, 20 and 25 were rejected under 35 U.S.C. § 102(b) as being anticipated by Jackson (U.S. Patent No. 3,490,447). Claims 3, 4, 15 and 16 were rejected under 35 U.S.C. § 103(a) as unpatentable over Jackson in view of Springett, et al. (U.S. Patent No. 6,234,171).

Applicant respectfully submits Jackson does not disclose or render obvious a face mask having a body portion configured to be placed over a mouth and at least part of a nose of a user in order to isolate the mouth and the at least part of the nose of the user from the environment such that the air of respiration is drawn through the body portion.

Jackson pertains to a fluid-impervious face mask that relies on principles of condensation and impingement to entrap moisture droplets and vapor with included contaminants. The Jackson mask is made of laminated material that desirably has a high thermal conductivity such as aluminum foil in order to promote condensation. The Jackson mask shown in Figs. 1-3 comprises an internal layer 4 formed with a series of rows of inwardly-extending protuberances 5 and a flat outer layer 6. The protuberances 5 on the internal layer 4 are intended to contact the wearer's skin. The air does not travel through the Jackson mask, but rather travels to and from the wearer by way of the irregular, random and elongated breathing passageways that are defined by the protuberances between the wearer's face and the internal layer 4 and that are designed to improve the probability of impingement and capture of droplets and to increase the degree of condensation. In an embodiment shown in Fig. 4, a second flat layer 12 engages the surface of flat layer 6, and an outer layer 9 bears protrusions 10. The protuberances 5 face the wearer so that moisture droplets projected in the air stream from the nose or mouth of the wearer have a high degree of impinging on the protuberances 5 and condensing and thus being captured along with bacteria entrapped in this moisture.

Each of claims 1-5, 10, 12, 13, 15, 16, 20 and 25 requires:

a body portion configured to be placed over a mouth
and at least part of a nose of a user in order to isolate
the mouth and the at least part of the nose of the user

from the environment such that the air of respiration is drawn through the body portion

See page 8, lines 23-26 of applicant's specification for example.

Jackson's mask cannot satisfy this limitation of independent claims 1-5, 10, 12, 13, 15, 16, 20 and 25 because it precludes the drawing of the air of respiration through the body portion of the mask. The overriding purpose of the Jackson mask is to force the air of respiration to travel through the irregular, random and elongated breathing passageways that are defined by the protuberances between the wearer's face and the internal layer 4 and that are designed to improve the probability of impingement and capture of droplets and to increase the degree of condensation. The Jackson mask is designed so that the air of respiration is exchanged with the environment via the edges of the mask rather than through the body portion of the mask. This air pathway via the edges of the Jackson mask is especially a point of emphasis as evidenced by the following passage (Jackson column 4, lines 4-11) describing an advantage of the Fig. 4 embodiment of the Jackson mask:

This construction is particularly advantageous when the mask is formed by the folding of a flat sheet of material, since it insures that those bubbles or projections which overlap the edge of the mask will be complete and fully enclosed to maintain their structural integrity. It will be apparent that any collapsing of the protuberances at the edge would reduce the total cross-sectional area of the passageways available for breathing.

Accordingly, Jackson fails to anticipate any of claims 1, 2, 5, 10, 12, 13, 20 and 25 under 35 U.S.C. § 102(b).

Claims 3, 4, 15 and 16 were rejected under 35 U.S.C. § 103(a) over Jackson in view of Springett. However, there is a fundamental problem with this rejection's basic premise, which is that the person of ordinary skill would look to a filtration mask like Springett's for suggestions for modifying a condensation mask like Jackson's. As stated at Jackson column 1, lines 50-52, Jackson's mask relies on principles of condensation and impingement to entrap moisture droplets and vapor with included contaminants, rather than filtration. Indeed, as stated at Jackson column 3, lines 52-54, in Jackson's mask:

The evaporation process has the advantage of cooling the mask and rendering it far more comfortable than the filtration masks now in common use.

Accordingly, Jackson's fluid-impervious masks that rely on principles of impingement and condensation are incompatible with air-pervious masks that rely on filtration like Springett's mask. Jackson masks are constructed based on the assumption that the respiration path between the wearer and the environment travels via the edges of the mask and not through the body of the mask. Conversely, Springett masks are constructed based on the assumption that the respiration path between the wearer and the environment travels through the body of the mask rather than via the edges of the mask. It is for this reason that the person of ordinary skill would not look to a mask like Springett for suggestions for modifying a mask like Jackson.

Moreover, this deficiency in the rejections based on any combination of Jackson and Springett manifests itself in the following statement taken from lines 11-13 from the bottom of page 5 of the Action:

it would have been obvious to modify Jackson's invention by providing a first layer that contacts the projections of the baffle layer as taught by Springett in order to prevent bacteria from entering the user's body.

Because interposing such a first layer between the wearer's face and the protuberances 5 of the Jackson mask would impair the intended function of the Jackson configuration, the person of ordinary skill would not adopt such a teaching from Springett. As noted above, the Jackson mask is configured to force the air of respiration to travel through the irregular, random and elongated breathing passageways that are defined by the protuberances 5 between the wearer's face and the internal layer 4. The reason any such first layer is conspicuously absent in the Jackson disclosure is because interposing a layer of material between the wearer's face and the protuberances 5 of the Jackson mask would impair the flow of vapor to the protuberances 5. The protuberances 5 on Jackson's internal layer 4 are intended to contact the wearer's skin and afford an unimpeded path from the wearer's mouth and nose to the protuberances 5. Thus, the baffle layer as taught by Springett would interfere with the way that the Jackson mask is intended to function. Therefore, there is no motivation for modifying Jackson in the

manner asserted by the Office Action except the hindsight gained from Applicant's disclosure, and resort to such hindsight is impermissible.

The rejection of claims 4 and 15 relies on the following statement taken from lines 9-10 from the bottom of page 5 of the Action:

Jackson discloses the applicant's invention as claimed with the exception of providing a first layer that is stiffer than the baffle layer.

The discussion of the Section 102(b) rejection based on Jackson demonstrated the falsity of the above statement because Jackson fails to disclose:

a body portion configured to be placed over a mouth and at least part of a nose of a user in order to isolate the mouth and the at least part of the nose of the user from the environment such that the air of respiration is drawn through the body portion

Accordingly, the rejection of claims 4 and 15 is deficient for this first reason.

The rejection of claims 4 and 15 also relies on the following statement taken from lines 5-8 from the bottom of page 5 of the Action:

Therefore it would have been obvious to modify Jackson's invention by providing a first layer that is stiffer than the baffle layer as taught by Springett so that the mask does not move when user changes head positions.

However, the simplest scrutiny reveals the implausibility of this statement. The first layer must touch Jackson's protuberances 5 that form the baffle layer, and to do so must touch the skin of the wearer of the mask. The protuberances already are stiff enough to resist compression when the mask is being worn. Any first layer that was even stiffer than Jackson's protuberances 5 that form the baffle layer would be most uncomfortable for the wearer and thus contrary to a stated object of Jackson's mask to be "more comfortable to wear in a correct manner." Jackson column 1, line 45.

Accordingly, the rejection of claims 4 and 15 is deficient for this second reason.

The rejection of claim 16 relies on the following statement taken from lines 1-4 from the bottom of page 5 of the Action:

Jackson discloses the applicant's invention as claimed with the exception of providing a body portion that has an additional layer that is the layer farthest

from the user when worn and adjacent to the layer
having projections,

As noted above, the discussion of the Section 102(b) rejection based on Jackson demonstrated the falsity of the above statement. Accordingly, the rejection of claim 16 is deficient for this first reason.

Furthermore, the rejection of claim 16 relies on the following motivation taken from lines 5-7 from the top of page 6 of the Action:

the additional layer stiffer than the layer having the
projections as taught by Springett so that the mask
does not move when user changes head positions.

This asserted motivation is a pure fiction that is unsupported by any evidence or logic. Jackson already has an outer layer 6 shown in Figs. 1-3, and thus has no need to be supplied with another layer that is stiffer than the projections 5. There is no evidence that making Jackson outer layer 6 stiffer will have any beneficial effect at all, much less any evidence that making Jackson outer layer 6 stiffer than the projections 5 will aid in preventing the mask from moving when the user changes head positions. Accordingly, the rejection of claim 16 is deficient for this second reason.

Applicant respectfully submits that all claims are allowable and that the application is in condition for allowance. Favorable action thereon is respectfully requested. The Examiner is encouraged to contact the undersigned at his convenience should he have any questions regarding this matter or require any additional information.

Respectfully submitted,

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